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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/516,446

**Applicant(s)**

MOSQUET ET AL.

**Examiner**

RIP A. LEE

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☒ Claim(s) 1, 2, 5-13, 16-19, 21-23, 26-28 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 01-17-2006

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

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**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-4, 6-12, 17-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 10/510,247 in view of Passut *et al.* (DE 197 35 431).

Both sets of claims are drawn to an aqueous emulsions for applying to concrete/mortar containing (a) paraffin wax, (b) hydrocarbon compound, and (c) oil formed of at least one ester. Claims of the copending application are not drawn to (d) and (e) filler. However, at the time the instant invention was made, it was well-established practice in the art of cement treatment, as shown in Passut *et al.*, to use acrylic latex as binder for paraffin waxes (about 10-30 wt %), and to use filler such as silica (1-10 wt %) and magnesium silicate (0.2-4 wt %) to adjust the viscosity in order to obtain a sprayable coating composition. Therefore, it would have been obvious to one having ordinary skill

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in the art to include acrylic binder as binder for the hydrophobic emulsion of the copending claims in order to render the composition sprayable, and it would have been obvious to one having ordinary skill in the art to include filler to adjust the viscosity of the composition appropriately. One of ordinary skill in the art also would have found it obvious to make the emulsion of the instant claims by carrying out the process recited for making the emulsion of the copending application and including a step of incorporation of the latex of Passut *et al.*

This is a provisional obviousness-type double patenting rejection.

### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin and having formula  $C_nH_{2n+2}$  and  $C_nH_{2n}$  is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.

4. Claim 1 is objected to because of the following informalities: An oil formed of at least one ester (c) would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

5. Claim 1 is objected to because of the following informalities: In line 1 of section (d), the term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid. Appropriate correction is required.

6. Claim 1 is objected to because of the following informalities: In line 2 of section (d), please replace “chosen” with “selected.” See MPEP § 2173.05(h) for Markush group construction. Appropriate correction is required.

7. Claim 1 is objected to because of the following informalities: In lines 6-8 of section (d), which describes the latex, the term “copolymers of acrylic ... methacrylic

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esters” is redundant, as this embodiment is fully described in lines 1-5 of this section. Appropriate correction is required.

8. Claim 2 is objected to because of the following informalities: Please replace “chosen” with “selected.” Appropriate correction is required.

9. Claim 2 is objected to because of the following informalities: In line 4, the redundant term “of petroleum or synthetic origin” may be removed since this limitation has been recited previously in claim 1. Appropriate correction is required.

10. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is not clear what claim is intended to state. The claim merely indicates that component (b) and (c) are natural or synthetic. In light of the fact that any compound is either natural or synthetic, the claim fails to limit further the subject of all previous claims.

11. Claim 6 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin and having formula  $C_nH_{2n+2}$  and  $C_nH_{2n}$  is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.

12. Claims 6 and 7 are objected to because of the following informalities: The phrase “is a hydrocarbon oil” in line 4 of the claim is redundant and may be removed from the claim. It is clear from line 3 that the material is a hydrocarbon oil. Appropriate corrections are required.

13. Claim 7 is objected to because of the following informalities: Please replace “chosen” with “selected.” Appropriate correction is required.

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14. Claim 8 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin and having formula  $C_nH_{2n+2}$  and  $C_nH_{2n}$  is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.

15. Claim 9 is objected to because of the following informalities: An oil formed of at least one ester (c) would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

16. Claim 10 is objected to because of the following informalities: The phrase “oil formed of at least one ester ... acid” in lines 4 and 5 is redundant. It is clear from lines 2 and 3 of the claim (as well as from claim 1), that the oil is a condensation product. The claim may be simplified to define the only condensation components. Appropriate correction is required.

17. Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since claim 9 limits the alcohol to trihydric alcohols, claim 11 can not be drawn to alcohols having “up to five” hydric groups.

18. Claim 11 is objected to because of the following informalities: The phrase “participating ... condensation reaction of a fatty acid and an alcohol” is superfluous and may be removed from the claim. It is also clear that the oil is a condensation product. Appropriate correction is required.

19. Claim 11 is objected to because of the following informalities: In line 5, please replace “chosen” with “selected.” See MPEP § 2173.05(h) for Markush group construction. Appropriate correction is required.

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20. Claim 12 is objected to because of the following informalities: In lines 2, 3, and 6, please replace “chosen” with “selected.” See MPEP § 2173.05(h) for Markush group construction. Appropriate correction is required.

21. Claim 13 is objected to because of the following informalities: Please replace “chosen” with “selected.” See MPEP § 2173.05(h) for Markush group construction. Appropriate correction is required.

22. Claim 16 is objected to because of the following informalities: Please replace “chosen” with “selected.” See MPEP § 2173.05(h) for Markush group construction. Appropriate correction is required.

23. Claim 17 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin and having formula  $C_nH_{2n+2}$  and  $C_nH_{2n}$  is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.

24. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 may be interpreted to recite a composition containing all five ingredients (a) through (e). Note the claim format is “comprising: (a); (b); (c); (d); and (e).” Therefore, component (b) and (c) can not be “0 %” as recited in the claim. As such, claim 17 fails to limit further the subject matter of claim 1.

25. Claim 17 is objected to because of the following informalities: An oil formed of at least one ester (c) would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

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26. Claim 17 is objected to because of the following informalities: In line 1 of the section that describes component (d), the term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid.

27. Claim 17 is objected to because of the following informalities: The term “as an emulsion in water” in line 2 of this section is redundant and may be removed from the claim. An aqueous emulsion, clearly, is an emulsion in water. Appropriate correction is required.

28. Claim 17 is objected to because of the following informalities: In line 3 of the section that describes component (d), please replace “compositions” with “composition.” Appropriate correction is required.

29. Claim 18 is objected to because of the following informalities: In line 3 of the section describing component (b), it is clear that the hydrocarbon oil “are hydrocarbon chains.” Furthermore, the term “are hydrocarbon chains” in context with the remainder of the sentence does not make sense. Appropriate correction is required.

30. Claim 18 is objected to because of the following informalities: An oil formed of at least one ester (c) would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

31. Claim 18 is objected to because of the following informalities: In line 1 of the section that describes component (d), the term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid.

32. Claim 19 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin and having formula  $C_nH_{2n+2}$  and  $C_nH_{2n}$  is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.



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33. Claim 19 is objected to because of the following informalities: An oil formed of at least one ester (c) would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

34. Claim 19 is objected to because of the following informalities: In line 1 of the section that describes component (d), the term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid.

35. Claim 21 is objected to because of the following informalities: The term “in emulsion form” is redundant and may be removed from the claim. Appropriate correction is required.

36. Claim 22 is objected to because of the following informalities: In step (iii), the oil formed of at least one ester (c) would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

37. Claim 23 is objected to because of the following informalities: In step (v), include “and” after “latex components.” Appropriate correction is required.

38. Claim 23 is objected to because of the following informalities: In step (vi), please replace “perverulent” with “pulverulent.” Appropriate correction is required.

39. Claim 23 is objected to because of the following informalities: The claims are drawn to a single composition, and claim 23 is specifically drawn to the use of said single composition, and therefore, the method can not comprise spraying “at least one of said compositions,” as recited in line 4 of the claim. Appropriate correction is required.

40. Claim 23 is objected to because of the following informalities: The claims are drawn to a single composition, and claim 23 is specifically drawn to the use of said single composition, and therefore, the term “as aqueous emulsions,” should be rewritten “as an aqueous emulsion.” Appropriate correction is required.

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41. Claim 26 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.
42. Claim 26 is objected to because of the following informalities: The oil formed of at least one ester would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.
43. Claim 26 is objected to because of the following informalities: The term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid.
44. Claim 26 is objected to because of the following informalities: The term “in emulsion form” is redundant and may be removed from the claim. Appropriate correction is required.
45. Claim 26 is objected to because of the following informalities: The sentence fragment “and water” needs a verb such as “is (present).” Appropriate correction is required.
46. Claim 26 is objected to because of the following informalities: The claim is drawn to a single composition. Please replace “compositions” in lines 9, 11, and 14 with “composition.” Appropriate correction is required.
47. Claim 27 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.

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48. Claim 27 is objected to because of the following informalities: The oil formed of at least one ester would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

49. Claim 27 is objected to because of the following informalities: The term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid.

50. Claim 27 is objected to because of the following informalities: The term “in emulsion form” is redundant and may be removed from the claim. Appropriate correction is required.

51. Claim 27 is objected to because of the following informalities: The sentence fragment “and water” needs a verb such as “is (present).” Appropriate correction is required.

52. Claim 27 is objected to because of the following informalities: The claim is drawn to a single composition. Please replace “compositions” in lines 9, 11, and 14 with “composition.” Appropriate correction is required.

53. Claim 28 is objected to because of the following informalities: It is clear that a hydrocarbon oil of aliphatic or naphthenic origin is “formed of hydrocarbon chains.” The term “formed of hydrocarbon chains” is superfluous and adds nothing to the claim, and therefore, may be removed. Appropriate correction is required.

54. Claim 28 is objected to because of the following informalities: The oil formed of at least one ester would not qualify as “hydrocarbon compound,” since it contains atoms other than carbon and hydrogen. Appropriate correction is required.

55. Claim 28 is objected to because of the following informalities: The term “colloidal,” used to define “aqueous emulsion” is superfluous since an emulsion, by definition, is a specific type of colloid.

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56. Claim 31 is objected to because of the following informalities: The term “in emulsion form” is redundant and may be removed from the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

57. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

58. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(i) Claim 1 is drawn to a composition provided in the form of an aqueous emulsion comprising at least one paraffin wax alone or in combination with at least one other hydrocarbon compound. Based on the list of ingredients (a) through (e), paraffin wax is not used “alone.”

(ii) Claim 1 may be interpreted to recite a composition containing all five ingredients (a) through (e). Note the claim format is “comprising: (a); (b); (c); (d); and (e).” Therefore, the optional phrase “or in combination with” is not consistent with the claimed features.

(iii) Claim 1 may be interpreted to recite a composition containing all five ingredients (a) through (e). Note the claim format is “comprising: (a); (b); (c); (d); and (e).” Therefore, the phrase “at least one other” is not consistent with the claimed features.

Due to claim inconsistency, the scope of the composition Applicant seeks to define remains unclear. For claims drawn to a composition containing all five components (a) through (e), it would appear that the entire phrase “comprising at least one paraffin ... hydrocarbon compound” is superfluous. Based on these considerations, the claims are deemed indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent claims 2-31 are subsumed under the rejection.

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59. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(i) In line 5 of section (d) of claim 1, it is not clear what is meant by the term “copolymers of vinyl and of acrylic acid or of methacrylic acid.” The term “vinyl” merely indicates a double bond and does not identify the nature of the monomer. Therefore, it is not clear what type of polymer is being described.

(ii) In line 6 of section (d) of claim 1, it is not clear what is meant by the term “copolymers of vinyl and of C<sub>1</sub> to C<sub>12</sub> esters.” The term “vinyl” merely indicates a double bond and does not identify the the monomer. The term “ester” defines a functional group and does not identify the monomer. Therefore, it is not clear what type of polymer is being described.

Based on these considerations, the claims are deemed indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent claims 2-31 are subsumed under the rejection.

60. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites a kinematic viscosity without an associated temperature, and therefore, the recited property is meaningless.

61. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the term “propane-1tri-2i-ol.”

62. Claims 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the term “q.s.”

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63. Claim 18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Use of the term “in the solid state” is unclear; it would appear that the paraffin wax is in the form of an emulsion. Elucidation and/or appropriate amendment is required.

64. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what components are described by claimed ratio. For instance, the claim may be construed to recite the ratio of the total of the oils relative to the paraffin wax, or the total of the oils and paraffin wax relative to the weight of the entire composition. Elucidation and/or appropriate amendment is required.

65. Claims 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the term “q.s.”

66. Claims 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what components are described by claimed ratio. For instance, the claim may be construed to recite the ratio of the total of the oils relative to the paraffin wax, or the total of the oils and paraffin wax relative to the weight of the entire composition. Elucidation and/or appropriate amendment is required.

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***Claim Rejections - 35 USC § 103***

67. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

68. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

69. Claims 1-18, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crockatt *et al.* (U.S. 4,681,910) in view of Isozaki *et al.* (U.S. 6,538,438); references Gomez (U.S. 4,563,296), Ellis *et al.* (U.S. 4,830,783), Dorman *et al.* (U.S. 4,525,495), and DeLiso *et al.* (U.S. 5,488,021) relied upon for extrinsic evidence only.

Crockatt *et al.* discloses a coating composition comprising an aqueous dispersion of petroleum wax, polyethylene wax, surfactant, and an aqueous latex of emulsion copolymerized monoethylenically unsaturated monomers. Paraffin waxes contain C<sub>18</sub> to C<sub>32</sub> hydrocarbons having melting point in the range about 50-70 °C. Those paraffin waxes containing 30-32 carbon atoms in the chain and exhibiting a melting point 50-70 °C meet the requirement set forth for component (a) in the instant claims. Paraffin waxes containing 18 to 29 carbon atoms in the chain meet the requirement set forth for component (b) in the instant claims. While the reference is silent with respect to the relative amounts of each type of wax, a reasonable basis exists to believe that the paraffin wax of Crockatt *et al.* contains a blend of at least one of the claimed wax components, especially in view of the fact that the wax exhibits a broad range of melting point. Since

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the PTO can not conduct experiments to investigate the exact constitution of the paraffin wax of Crockatt *et al.*, the burden of proof is shifted to Applicant to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Non-ionic surfactant is utilized as emulsion stabilizer, and it is an ethoxylated castor oil (col. 4, line 39).

The latex is preferably an acrylic copolymer emulsion, however, other polymers are included (col. 4, lines 43-63).

Castor oil is a triglyceride ester having fatty acid chains derived primarily from ricinoleic acid, with oleic acid, and linoleic acid as other significant components; stearic acid is a minor component; the oil may also be in diester and monoester form (see Gomez, col. 3, lines 12-20). The latex is preferably an acrylic copolymer emulsion, however, other polymers are included (col. 4, lines 43-63).

Silica, alone or in admixture with platy clay, is included as pigment (col. 5, lines 39-41). Silica utilized in the invention is purchased as Imsil A-15. This amorphous silica has a mean particle size of 2.9  $\mu$  and a distribution of greater than 99% by weight of particles less than 15  $\mu$  in size (see Ellis *et al.*, table in column 8). It follows the distribution is between the claimed range of 0-300  $\mu$ . The BET surface area is 1.46 m<sup>2</sup>/g; see Dorman *et al.*, Table 1. Working examples show use of about 10 wt % of platy clay pigment. Inspection of the table in column 6 reveals that the platy is attapulgite clay, which is known to have a BET surface area in the range of 120-150 m<sup>2</sup>/g (see DeLiso *et al.*, col. 4, lines 43-48).

Compositions of Crockatt *et al.* contain 5-50 wt % of the wax dispersion, 5-95 wt % of polymer emulsion (claim 1). Working examples show that commercially available acrylic emulsion having a solids content of about 46 % and a wax dispersion having a solids content of about 39 % (table 6) are suitable for practicing the invention of the prior art. Total concentration of non-volatile solid materials in the final composition is from about 5 to about 40 percent (col. 7, lines 1-4). The amount of ester based non-ionic surfactant is that sufficient to ensure formation of a stabilized emulsion (claim 1); this quantity is at least 5 wt %, and preferably at least 20 wt % (claims 4 and 5).



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Crockatt *et al.* is silent with respect to the density of the paraffin wax. Isozaki *et al.* discloses a comparable paraffin wax having an average molecular weight of 361 ( $361 \div 12 \approx 30$  carbon atoms) and a melting point of 55 °C that has a density of 0.902 g/cm<sup>3</sup> (col. 8, lines 16-20). In view of the fact that the C<sub>18</sub> to C<sub>32</sub> paraffin wax of Crockatt *et al.* is substantially similar to that shown in Isozaki *et al.*, a reasonable basis exists to believe that the paraffin wax exhibits a density within the claimed range set forth in claims 4, 8, and 24. With respect to claim 7, a reasonable basis exists to believe that the lower molecular weight paraffin wax (*i.e.*, C<sub>18</sub>) of Crockatt *et al.* exhibits a kinematic viscosity within the claimed range, especially in view of the fact that is similar to the claimed hydrocarbon compound ( $n < 30$ ), and particularly in light of the fact that the claimed range is unexceptionally broad and not associated with a given temperature. Again, the burden of proof is shifted to Applicant to establish an unobviousness difference as per *In re Best* and *In re Spada*.

70. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crockatt *et al.* (U.S. 4,681,910) in view of Isozaki *et al.*, as applied to claims 1-18, 24, and 25 above, and further in view of Passut *et al.* (DE 197 35 431).

Crockatt *et al.* discloses use of high molecular weight polyethylene wax having molecular weight greater than 10,000. The reference does not indicate the form of this solid wax. Passut *et al.* discloses that polyethylene wax is commercially available in micronized, that is, finely pulverized, form (page 2, line 64). Thus, it would have been obvious to one having ordinary skill in the art to obtain polyethylene wax in powdery form in view of the disclosure of Passut *et al.* which teaches that polyethylene wax is obtained in such form.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

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/Rip A. Lee/  
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September 30, 2008